

2010
ASHP National Clinical Skills Competition
LOCAL CASE

2010 ASHP Clinical Skills Competition

LOCAL COMPETITION CASE

Directions to Clinical Skills Competition Participants

Identify the patient's acute and chronic medical and drug therapy problems. Recommend interventions to address the drug therapy problems using the forms supplied (Pharmacist's Patient Data Base, Drug Therapy Assessment Worksheet [DTAW], and Pharmacist's Care Plan).

IMPORTANT NOTE: Only the Pharmacist's Care Plan will be used for evaluation purposes. The Drug Therapy Assessment Worksheet is simply a tool to assist you in the decision-making process.

**ASHP CLINICAL SKILLS COMPETITION
PHARMACIST'S PATIENT DATA BASE FORM (Cont.)**

Family History	Cultures
Father: deceased at 54 from MI Mother: 76, alive, osteoporosis, HTN, DM Sister: 54, alive, HTN	Day 1 (collected) Blood Culture x2 No growth for 1 day CSF Culture x2 No growth for 1 day CSF Gram Stain negative Urethral (GC) culture No growth for 1 day
Social History	Fasting Lipids - N/A
Tobacco: 1 ppd x 35 years, currently smokes ETOH: 1-2 drinks/day Illicit Drugs: occasional recreational marijuana use Caffeine: 2 cups/day <u>Occupation</u> : sales manager (telecommunications company) <u>Status</u> : single; multiple partners (male and female) <u>Children</u> : none <u>Physical Activity</u> : Not specified <u>Diet</u> : Not specified	Other Tests
	Chlamydia PCR Pending HBsAg Negative HBcAb Positive HBsAb Positive Serum VDRL titer 1:128 CSF VDRL titer 1:64
	Urinalysis & Drug Screen
	Appearance Clear, yellow Specific gravity 1.010 Blood None Ketones None Leukocyte esterase None Nitrites Negative Protein 1+ Glucose None RBCs 2 WBCs 4 Bacteria Few Amphetamines – Negative Barbiturates – Negative Benzodiazepines – Negative Cocaine – Negative Marijuana – Positive Opiates – Negative Blood EtOH 0 mg/dL
Procedures	X-ray
Lumbar puncture x 2 (Days 1 & 2)	CT scan (head) – negative
Physical Exam (Day 1)	
General: slightly obese male with vague neurological symptoms	
Neuro: AAO x 3; CN II-XII intact; (-) Babinski, (-) Kernig, (-) Brudzinski; Folstein 28/30; moter, sensory and DTR wnl	
Skin: warm, dry; intact, no lesions, tumors or moles	
Normocephalic;atraumatic; PERRLA; Visual acuity 20/20 OU	
Neck/LN - Neck supple; mild tonsillar lymphadenopathy, (-) thyromegaly, (-) masses. (-) supraclavicular or infraclavicular adenopathy	
Chest: Tachypneic, clear to A&P	
CV: Regular rhythm; no murmurs, gallops, or rubs	
Abd: Soft, nontender, nondistended, (+) bowel sounds	
Ext: Full ROM and strength for all major joints except R knee with slight crepitus and discomfort with limited extension to 5°. Drawer tests wnl bilaterally: McMurray/Appley with mild discomfort and crepitus R knee only	
Pelvic: Unremarkable	

**ASHP CLINICAL SKILLS COMPETITION
PHARMACIST'S PATIENT DATA BASE FORM (Cont.)**

Allergies/Intolerances		Prescription Coverage	
DF can't recall the exact name, but developed hives and facial swelling 1 year ago after receiving a shot in his buttocks for an STD		Insurance: Blue Cross Blue Shield	
Adhesive allergy		Copay: \$5 per generic medication, \$20 per brand	
		Cost per month: n/a	
		Annual Income: \$90,000	
Current Drug Therapy			
Drug Name/Dose/Strength/Route	Prescribed Schedule	Duration Start-Stop Dates	Indication
1. Vancomycin 1.5 g IV	Q12H	Day 1 – present	Meningitis
2. Trimethoprim-Sulfamethoxazole (TMP-SMX) 480 mg-2400 mg IV	Q6H	Day 1 – present	Meningitis
3. Dexamethasone 14 mg IV	Q6H	Day 1 – present	Meningitis
4. Diltiazem 60 mg PO	Q6H	Day 1 – present	Hypertension/VFib
5. Hydrochlorothiazide 12.5 mg PO	QAM	Day 1 – present	Hypertension
6. Acetaminophen 2 extra strength tabs	Q4H PRN for pain	Day 1 – present	Headache
Outpatient Medication History			
Diltiazem ER 240 mg PO daily for several years Hydrochlorothiazide 12.5 mg PO QAM for several years Acetaminophen extra strength two tablets 4-6 times a day as needed for chronic knee pain.			
Patient Narrative			
It is currently hospital day #2 and you are standing outside the patient's room with Dr Miller and the multidisciplinary team. The CSF VDRL has just come back positive from the lab. Dr Miller is confident in her diagnosis of neurosyphilis. As the clinical pharmacist on service, what are your recommendations? Prioritize your problem list as directed for this competition.			

Drug Therapy Assessment Worksheet (DTAW)

The Drug Therapy Assessment Worksheet (DTAW) will serve as a guide to identify any drug-related problems that your patient may have. You may make notes on the DTAW. **However, the Drug Therapy Assessment Worksheet will not be scored.** As you proceed through all the questions on the DTAW, you will accumulate a list of drug therapy problems. All of these problems should be assessed on your Pharmacist's Care Plan. Drug-related problems may be listed as separate items on your Pharmacist's Care Plan or addressed in your recommendations for therapy of the acute or chronic disease states that the medicines are being used to treat. Teams will be evaluated on identifying and making appropriate recommendations for drug-related problems in the following areas below:

1. Correlation between drug therapy and medical problems
2. Appropriate drug selection
3. Drug regimen
4. Therapeutic duplication
5. Drug allergy or intolerance
6. Adverse drug events
7. Interactions: drug–drug, drug–disease, drug–nutrient, and drug–laboratory test
8. Social or recreational drug use
9. Failure to receive therapy
10. Financial impact
11. Patient knowledge of drug therapy

ASHP CLINICAL SKILLS COMPETITION DRUG THERAPY ASSESSMENT WORKSHEET (DTAW)

Type of Problem	Assessment	Presence of Drug-Related Problem	Comments/Notes
Correlation between Drug Therapy and Medical Problems	<p>Are there drugs without a medical indication?</p> <p>Are any medications unidentified (are any unlabeled or are any—prior to admission/clinic visit—unknown)?</p> <p>Are there untreated medical conditions? Do they require drug therapy?</p>	<ol style="list-style-type: none"> 1. A problem exists. 2. More information is needed for a determination. 3. No problem exists or an intervention is not needed. 	
Appropriate Drug Selection	<p>What is the comparative efficacy of the chosen medication(s)?</p> <p>What is the relative safety of the chosen medication(s)?</p> <p>Has the therapy been tailored to this individual patient?</p>	<ol style="list-style-type: none"> 1. A problem exists. 2. More information is needed for a determination. 3. No problem exists or an intervention is not needed. 	
Drug Regimen	<p>Are the prescribed dose and dosing frequency appropriate—within the usual therapeutic range and/or modified for patient factors?</p> <p>Is pm use appropriate for those medications either prescribed or taken that way?</p> <p>Is the route/dosage form/mode of administration appropriate, considering efficacy, safety, convenience, patient limitations, and cost?</p> <p>Are doses scheduled to maximize therapeutic effect and compliance and to minimize adverse effects, drug interactions, and regimen complexity?</p> <p>Is the length or course of therapy appropriate?</p>	<ol style="list-style-type: none"> 1. A problem exists. 2. More information is needed for a determination. 3. No problem exists or an intervention is not needed. 	
Therapeutic Duplication	<p>Are there any therapeutic duplications?</p>	<ol style="list-style-type: none"> 1. A problem exists. 2. More information is needed for a determination. 3. No problem exists or an intervention is not needed. 	
Drug Allergy or Intolerance	<p>Is the patient allergic to or intolerant of any medicines (or chemically related medications) currently being taken?</p> <p>Is the patient using any method to alert health care providers of the allergy/intolerance (or serious medical problem)?</p>	<ol style="list-style-type: none"> 1. A problem exists. 2. More information is needed for a determination. 3. No problem exists or an intervention is not needed. 	

ASHP CLINICAL SKILLS COMPETITION DRUG THERAPY ASSESSMENT WORKSHEET (DTAW)

Type of Problem	Assessment	Presence of Drug-Related Problem	Comments/Notes
Adverse Drug Events	Are there symptoms or medical problems that may be drug induced? What is the likelihood that the problem is drug related?	<ol style="list-style-type: none"> 1. A problem exists. 2. More information is needed for a determination. 3. No problem exists or an intervention is not needed. 	
Interactions: Drug-Drug, Drug-Disease, Drug-Nutrient, and Drug-Laboratory Test	<p>Are there drug-drug interactions? Are they clinically significant?</p> <p>Are any medications contraindicated (relatively or absolutely) given patient characteristics and current/past disease states?</p> <p>Are there drug-nutrient interactions? Are they clinically significant?</p> <p>Are there drug-laboratory test interactions? Are they clinically significant?</p>	<ol style="list-style-type: none"> 1. A problem exists. 2. More information is needed for a determination. 3. No problem exists or an intervention is not needed. 	
Social or Recreational Drug Use	<p>Is the patient's current use of social drugs problematic?</p> <p>Could the sudden decrease or discontinuation of social drugs be related to patient symptoms (e.g., withdrawal)?</p>	<ol style="list-style-type: none"> 1. A problem exists. 2. More information is needed for a determination. 3. No problem exists or an intervention is not needed. 	
Failure to Receive Therapy	<p>Has the patient failed to receive a medication due to system error or noncompliance:</p> <p>Are there factors hindering the achievement of therapeutic efficacy?</p>	<ol style="list-style-type: none"> 1. A problem exists. 2. More information is needed for a determination. 3. No problem exists or an intervention is not needed. 	
Financial Impact	<p>Is the chosen medication(s) cost effective?</p> <p>Does the cost of drug therapy represent a financial hardship for the patient?</p>	<ol style="list-style-type: none"> 1. A problem exists. 2. More information is needed for a determination. 3. No problem exists or an intervention is not needed. 	
Patient Knowledge of Drug Therapy	<p>Does the patient understand the purpose of his or her medication(s), how to take it, and the potential side effects of therapy?</p> <p>Would the patient benefit from education tools (e.g., written patient education sheets, wallet cards, and reminder packaging)?</p>	<ol style="list-style-type: none"> 1. A problem exists. 2. More information is needed for a determination. 3. No problem exists or an intervention is not needed. 	

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Evaluated for
competition

ASHP Clinical Skills Competition - Pharmacist's Care Plan

Problem Identification and Prioritization with Pharmacist's Care Plan

Team # _____

- A. List all health care problems that need to be addressed in this patient using the table below.
- B. Prioritize the problems by indicating the appropriate number in the "Priority" column below:
- 1 = Most urgent problem (**Note:** There can only be one most urgent problem)
 - 2 = Other problems that must be addressed immediately or during this clinical encounter; **OR**
 - 3 = Problems that can be addressed later (e.g. a week or more later)
- *Please note, there should be only a "1", "2", or "3" listed in the priority column, and the number "1" should only be used once.*

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints

ASHP Clinical Skills Competition - Pharmacist's Care Plan

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Problem Identification and Prioritization with Pharmacist's Care Plan

Team # _____

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints

ASHP Clinical Skills Competition - Pharmacist's Care Plan

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Problem Identification and Prioritization with Pharmacist's Care Plan

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Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints

ASHP Clinical Skills Competition - Pharmacist's Care Plan

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Problem Identification and Prioritization with Pharmacist's Care Plan

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Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints

ASHP Clinical Skills Competition - Pharmacist's Care Plan

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Problem Identification and Prioritization with Pharmacist's Care Plan

Team # _____

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints

ASHP Clinical Skills Competition - Pharmacist's Care Plan

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Problem Identification and Prioritization with Pharmacist's Care Plan

Team # _____

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints

ASHP Clinical Skills Competition - Pharmacist's Care Plan

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Problem Identification and Prioritization with Pharmacist's Care Plan

Team # _____

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints

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LOCAL CASE ANSWER KEY

ASHP Clinical Skills Competition - Pharmacist's Care Plan

Evaluated for competition

Problem Identification and Prioritization with Pharmacist's Care Plan

Team # _____

- A. List all health care problems that need to be addressed in this patient using the table below.
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- 1 = Most urgent problem (Note: There can only be one most urgent problem)
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 - 3 = Problems that can be addressed later (e.g. a week or more later)

**Please note, there should be only a "1", "2", or "3" listed in the priority column, and the number "1" should only be used once.*

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Neurosyphilis/PCN allergy	1	<ul style="list-style-type: none"> • Resolution of infection • Prevention of long term neurologic sequelae 	<ul style="list-style-type: none"> • Penicillin desensitization protocol • Aqueous penicillin G 4 million units IV q4h • D/C vancomycin, TMP-SMX and dexamethasone 	<ul style="list-style-type: none"> • Monitor for signs and symptoms of penicillin hypersensitivity and other adverse effects • Resolution of neurological symptoms
Safe Sex Education	2	<ul style="list-style-type: none"> • Reduce morbidity from acquisition of sexually transmitted infections, including human immunodeficiency virus 	<ul style="list-style-type: none"> • Assure education of safe sexual practice / STD prevention • Abstain from sexual contact with others until treatment completed • Since patient is HBsAg negative, HBcAb positive, and HBsAb positive, he has immunity secondary to previous exposure; this does not require any treatment, subsequent boosters, or follow up 	<ul style="list-style-type: none"> • Follow-up on Urethral cultures and chlamydia PCR • Treat if infected for STI

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Acetaminophen overuse/osteoarthritis	2	<ul style="list-style-type: none"> • Improve pain relief and minimize pain • Reduce risk of chronic Acetaminophen overdose 	<ul style="list-style-type: none"> • Educate patient about dangers of Acetaminophen overuse • Pain evaluation/consult • NSAID options: <ul style="list-style-type: none"> -Ibuprofen 400-800 mg/dose PO every 4-6 hours (maximum daily dose: 3.2 g) - Naproxen 250-500 mg/dose (base) PO every 6-8 hours (maximum daily dose: 1250 mg) - Nabumetone 1000 mg PO once or twice daily (maximum daily dose: 2 g) - Meloxicam 7.5-15 mg PO once daily (maximum daily dose: 2 g) • Patient counseling for NSAIDS 	<ul style="list-style-type: none"> • Monitor for pain relief (pain scale) after changes in dosing schedule and/or after switching to an alternative analgesic • Pain scores, prn oxycodone use, ADLs, serotonin syndrome (e.g. fever, rigidity, tachycardia, altered mental status) • If pain controlled with acceptable dosages of acetaminophen, continually monitor liver transaminases • If switched to NSAID, monitor for GI tolerability and renal function periodically • Endpoint: Decreased pain scores
Discharge Planning	2	<ul style="list-style-type: none"> • Ensure patient can obtain parenteral therapy as outpatient • Ensure all discharge medications have an indication 	<ul style="list-style-type: none"> • Contact insurance provider to determine home IV infusion eligibility • Medication reconciliation 	

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Smoking Cessation	2	<ul style="list-style-type: none"> • Circumvent nicotine craving symptoms, including insomnia, anxiety, irritability, etc., while hospitalized • Reduce risk of morbidity and mortality from cardiovascular disease and malignancy 	<ul style="list-style-type: none"> • Question patient on level of comfort while hospitalized and abstaining from smoking • If patient is experiencing nicotine withdrawal symptoms or if patient request pharmacologic therapy, add nicotine gum or lozenge (4 gram piece preferred but 2 g acceptable): chew PRN for craving (Max: 24 pieces per day) • (Patches should be avoided due to potential reaction to adhesives in product) • Counsel patient on risks of continue smoking 	<ul style="list-style-type: none"> • Monitor for signs and symptoms of nicotine withdrawal • Monitor for adverse effects of nicotine replacement: nausea, dry mouth, dizziness, headache, etc.
Substance Abuse (Alcohol/Marijuana)	3	<ul style="list-style-type: none"> • Reduce morbidity and mortality from liver disease and malignancy • Minimize unsafe sexual practices 	<ul style="list-style-type: none"> • Psych consult • Suggest counseling as outpatient • Question about safety of marijuana source; warn of potential for laced products 	
Hypertension	3	<ul style="list-style-type: none"> • Blood pressure < 140/90 mmHg • Decrease cardiovascular and renal morbidity and mortality 	<ul style="list-style-type: none"> • Continue antihypertensive medications • No medication changes needed at this time 	<ul style="list-style-type: none"> • Blood Pressure every 3 to 6 months. • Serum creatinine 1 to 2 times per year. • Serum potassium 1 to two times per year. • Evaluate for proteinuria • Evaluate risk for diabetes mellitus • Follow up on elevated AST/ALT

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
HIV testing	3	<ul style="list-style-type: none"> • Reduce morbidity and mortality from HIV infection • Prevent the transmission of HIV 	<ul style="list-style-type: none"> • Highly recommend HIV testing 	<ul style="list-style-type: none"> • Retest after 6 months of last exposure • Regular testing if continued exposure

Note to the judges:

The Pharmacist Care Plan has been constructed to be as exhaustive as possible. Judges for the Clinical Skills Competition are experts in the field of clinical pharmacy and will have insights into this case that could not be accounted for in a feasible manner. Thus, as a topic expert, if you identify a drug related problem that we did not account for, please feel free to judge the student’s responses based on your best judgment. We can envision industrious students listing “level 3” problems such as: outpatient vaccinations, outpatient cancer screenings, patient literacy assessments, domestic violence assessments, etc. Please use your discretion in judging these points in the context of the larger case.

Here is some additional guidance to assist you with the judging.

This case, has several subtle caveats that may not be overt, hopefully the following comments may offer some assistance for interpreting and judging the case.

Problem – Neurosyphilis

The student is to identify in the patient’s allergy that the “shot for STD” is a beta-lactam (likely ceftriaxone) and primary therapy for neurosyphilis would involve penicillin desensitization. Though alternatives are available, strength of the evidence should preclude students from recommending other options.

Problem – Safe Sex Education

Though simple enough, counseling on abstinence from sexual intercourse is often overlooked and should be an integral part of STI treatment regimen.

Problem – Acetaminophen overuse.

The student is to identify that patient is taking 4 to 6 gm of acetaminophen while consuming alcohol daily. Due to the nature of the pain, degenerative joint disease, NSAID’s are preferred.

Problem – Discharge planning

The course of therapy would warrant 10 to 14 days of IV therapy, which would require home infusion. This area is to highlight transition of care.

Problem – Smoking Cessation.

The student is to identify that the adhesive allergy will negate the possibility of Nicotine patches and should provide alternative, nicotine replacement therapies if the patient is uncomfortable upon questioning, when possible.

Problem – Substance Abuse

This area highlights other concurrent unsafe practices. There is also a high potential for using contaminated or laced illicit substances.

Problem – Hypertension

The patient's diltiazem switched from ER to immediate release as part of hospital automatic substitution policy. On urinalysis the patient has proteinuria, which can a potential area for student questions on blood pressure management.

Problem – HIV testing

The student is to identify that this patient is being treated for a sexually transmitted infection. Missing from the essential diagnostic work-up is an HIV test. This is an opportunity for the pharmacist to identify a missing test while on rounds. Not standard for pharmacy, but should have been picked up by the team and is an opportunity for the pharmacist to provide value to the team.